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Original Article

What Makes an Effective Abstract in Sport Science?

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Abstract
Writing an efficient abstract is always a difficult and significant work in academic writing. What kinds of abstracts are well reputed in sport science? To answer this question, 20 abstracts from top journals of sport science were analyzed in the current research. The number of words and rhetorical moves were studied to assess the structures of the abstracts. Meanwhile, the key clauses, citations, the use of first person pronoun, the adoption of abbreviations and acronyms, hedging and the main tense were included in the analysis of the writing skills. Results have show: (1) Almost all of the abstracts were non-structured, and the length varied a lot, but the average word count was about 210-220; (2) the use of writing skills, such as key clauses, citations and hedging differed depending on the preference of the journal where the abstract appeared, and the main tense was selected based on the context of the abstract. In most cases, abbreviations and acronyms were allowed to be used, while the first person pronoun was always avoided.
Key words: Sport Science, Papers, Abstracts, Writing Skills

Introduction

To a large degree, whether a paper could be admitted or not is initially determined by the quality of its abstract. It pelays a crucial role in international scientific communication and gives the basic information of the paper, so its quality could convince or ruin the interest of reviewers and readers to explore the rest of the paper. What is called for in an effective abstract in the field of sport science? This article tries to give some specific instructions by analyzing the abstracts from two of the most reputable journals in sport science -- European Journal of Sport Science and Journal of Sports Sciences (hereinafter referred to as EJSS and JSS respectively).
The aims of this study were: (1) to investigate the structure and writing skills of the abstracts from the above two journals; (2) to compare the differences of their demands for abstracts; and (3) to provide some guidelines for authors and translators to formulate abstracts in the field of sport science.

Methodology

Respectively, 10 abstracts of recently published articles from the two journals were chosen as the objects of the current research. Two perspectives of the abstracts were analyzed in the study: "structures" and "writing skills". Firstly, the number of words and rhetorical moves were taken into the previous aspect. Secondly, the key clause, citations, the use of first person pronoun, the use of abbreviations and acronyms, hedging and the main tense were included in the analysis of the later aspect.

Results

1. Structures of Abstracts

Number of words

Table 1 Number of Words of Abstracts

Journals	N	Minimum	Maximum	Mean	Std. Deviation
EJSS	10	129	343	219.7	71.3
JSS	10	146	290	211.3	40.6

It could be clearly seen from Table 1 that average words of abstracts from both the journals were about 210-220. However, with the maximum of 343, minimum of 129 and the standard deviation of 71.3, the EJSS had definitely more variety on word numbers than JSS (SD. = 40.6).

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Rhetorical moves

Normally, the rhetorical moves of an abstract include: (1) background or introduction; (2) purposes; (3) methods; (4) results; (5) conclusions or suggestions. The abstract that is arranged according to the rhetorical moves (often with the indication of the moves) is named "structured abstract".

Table 2 Rhetorical Moves of Abstracts

EJSS			JSS		
Rhetorical Moves	Frequency	Percent	Rhetorical Moves	Frequency	Percent
(1)-(2)-(4)	1	10	(2)-(3)-(4)	1	10
(3)-(4)-(5)	2	20	(3)-(4)-(5)	4	40
(1)-(2)-(3)-(4)	2	20	(1)-(2)-(3)-(4)	1	10
(1)-(2)-(3)-(5)	1	10	(1)-(3)-(4)-(5)	2	20
(1)-(2)-(4)-(5)	1	10	(2)-(3)-(4)-(5)	2	20
(2)-(3)-(4)-(5)	2	20	Total	10	100
(1)-(2)-(3)-(4)-(5)	1	10			
Total	10	100			

Both journals seemed not to favor structured abstracts, for only one out of the 20 was structured. What is more, they preferred different "free-style" abstracts. Most of abstracts from EJSS contained the "background or introduction" and "purposes" parts. While the JSS emphasized a more straightforward approach: to clarify the methods and results directly in abstracts. Meanwhile, the abstracts from EJSS were written more freely than that from JSS, for their rhetorical moves were more widely distributed (see Table 2).

2. Writing Skills

Table 3 Using of Different Writing Skills in the Abstracts

	EJSS		JSS	
Writing Skills	Used	Not Used	Used	Not Used
Key Clause	3	7	0	10
Citation	0	10	1	9
First Person Pronoun	1	9	2	8
Abbreviations/Acronym	5	5	6	4
Hedging	5	5	1	9

Key clause

A key clause in an abstract refers to the first sentence which plays the role of capturing readers' interest and attention to the text. It would not have to be the key sentence that concludes the main meaning of the text. From Table 3, it could be seen that EJSS seems to welcome this kind of writing, while it did not work in JSS, for none of the abstracts from JSS adopted this skill.

Citation

According to the *"Cambridge Advanced Learner's Dictionary"*, citation is defined as "a word or piece of writing taken from a written work". From the fact that only one of the twenty abstracts had included citations, it seemed both journals did not like citations in their abstracts.

First person pronoun

First person pronoun refers to the pronouns of "I", "we", "me" and "us". In the academic tradition, the avoiding the use of first person pronoun is considered as being objective. It can be seen from Table 3, although it had not been forbidden, first person pronoun was rarely used in the abstracts of the two journals.

Abbreviations/Acronym

An abbreviation is a short form of a longer word, while an acronym is a word composed of the first letters of the words it refers to. Table 3 indicated that abbreviations and acronyms were fully acceptable when necessary in both journals.

Hedging

Hedging is to avoid stating a point too definitely by qualifying it, especially in academic writing. Examples of hedging: adverbs (possibly, perhaps), modal verbs (could, might, may). Table 3 revealed that the

journals' attitudes to hedging seemed to be totally different. The skill was prevalently used in EJSS, but rarely undertaken in JSS. It sounds that JSS preferred assured ideas, viewpoints, conclusions and suggestions.

Main tense

Table 4 Main Tense Used in the Abstracts

Main Tense / Journal	Present	Past	Present + Past
EJSS	3	5	2
JSS	0	8	2

Choosing the right tense is not always a straightforward issue in academic writing, for different choices may generate different meanings. Generally, the experiment based research would most likely choose the past tense while the literature based ones would most likely choose the present. Table 4 shows that the main tense used in abstracts from EJSS were more flexible, while past tense was more frequently adopted in abstracts from JSS.

Suggestions

Given the analysis above, although the length and framework are not firmly restricted, a non-structured abstract with 210-220 words seems to be welcomed in sport science. It is recommended to apply the writing skills, such as key clause, citations and hedging, depending on the preference of the journal where the abstract would most likely appear. It is also important to select the correct main tense based on the context of the abstract. The abbreviations and acronyms are allowed to be used in most cases, while it is highly suggested to avoid using the first person pronoun.

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Appendix

Analyzed abstracts:

Miguel A. Gómez, Maite Gómez-Lopez, Carlos Lago & Jaime Sampaio.(2012). Effects of game location and final outcome on game-related statistics in each zone of the pitch in professional football. *European Journal of Sport Science*. 12(5), 393-398.

Gareth Knight & Peter O'Donoghue. (2012). The probability of winning break points in Grand Slam men's singles tennis. *European Journal of Sport Science*. 12(6), 462-468.

Paul Ford, Dave Collins, Richard Bailey, Áine MacNamara, Gemma Pearce & Martin Toms. (2012). Participant development in sport and physical activity: The impact of biological maturation. *European Journal of Sport Science*. 12(6), 515-526.

Jose Francisco Guzmán & Kieran Kingston. (2012). Prospective study of sport dropout: A motivational analysis as a function of age and gender. *European Journal of Sport Science*. 12(5), 431-442.

Lisa M. Stirling, Vinzenz Von Tscharner, Jared R. Fletcher & Benno M. Nigg. (2012). Quantification of the manifestations of fatigue during treadmill running. *European Journal of Sport Science.* 12(5), 418-424.

Johannes Landlinger, Thomas Stöggl, Stefan Lindinger, Herbert Wagner & Erich Müller. (2012). Differences in ball speed and accuracy of tennis groundstrokes between elite and high-performance players. *European Journal of Sport Science*. 12(4), 301-308.

Sigmund Loland & Hans Hoppeler. (2012). Justifying anti-doping: The fair opportunity principle and the biology of performance enhancement. *European Journal of Sport Science*. 12(4), 347-353.

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VÍtor P Lopes, José A. R. Maia, Luis P Rodrigues & Robert Malina. (2012). Motor coordination, physical activity and fitness as predictors of longitudinal change in adiposity during childhood. *European Journal of Sport Science*, 12(4), 384-391.

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Markus J. Klusemann, David B. Pyne, Carl Foster & Eric J. Drinkwater. (2012). Optimizing technical skills and physical loading in small-sided basketball games. *Journal of Sports Sciences.* 30(14), 1463-1471.

Ibrahim Akubat, Ebrahim Patel, Steve Barrett & Grant Abt. (2012). Methods of monitoring the training and match load and their relationship to changes in fitness in professional youth soccer players. *Journal of Sports Sciences*, 30(14), 1473-1480.

Paul William Macdermid & Stephen Stannard. (2012). Mechanical work and physiological responses to simulated cross country mountain bike racing. *Journal of Sports Sciences*. 30(14), 1491-1501.

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Benjamin G. Serpell, Nick B. Ball, Jennie M. Scarvell & Paul N. (2012). Smith. A review of models of vertical, leg, and knee stiffness in adults for running, jumping or hopping tasks. *Journal of Sports Sciences*. 30(13), 1347-1363.

Robin van den Honert. (2012). Evidence of the relative age effect in football in Australia. *Journal of Sports Sciences,* 30(13), 1365-1374.

Faye F. Didymus & David Fletcher . (2012). Getting to the heart of the matter: A diary study of swimmers' appraisals of organisational stressors. *Journal of Sports Sciences,* 30(13), 1375-1385.

Geoffrey M. Minett, Rob Duffield, Aaron Kellett & Marc Portus. (2012). Effects of mixed-method cooling on recovery of medium-fast bowling performance in hot conditions on consecutive days. *Journal of Sports Sciences,* 30(13), 1387-1396.

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